



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/605,736	06/29/2000	Yoichi Nakamura	Q59315	8085

7590

05/05/2004

Sughrue Mion Zinn MacPeak & Seas PLLC  
2100 Pennsylvania Avenue NW  
Washington, DC 20037-3202

EXAMINER

WORKU, NEGUSSIE

ART UNIT

PAPER NUMBER

2626

DATE MAILED: 05/05/2004

3

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/605,736

Applicant(s)

NAKAMURA, YOICHI

Examiner

Negussie Worku

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-15 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 6 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5 and 8-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Murakami (USP 5912747).

With respect to claim 1, Murakami discloses an apparatus (shown in fig 1, image reading device 2) for reading an image and producing electronic data representing the image, see (col.3, lines 20-23) the apparatus (image reading 2 of fig 1) comprising: a carrier (ADF ) for receiving and supporting an image, see (col.4, lines 50-60), and conveying the image along a path of travel see (belt 12 of fig 1, convey the document); a light source (light source 103 of fig 1) disposed along the path of travel and operable for irradiating the image with visible light and non-visible light (light source 103 of fig 1, inherently irradiating visible light and non-visible); an optical system (shown 1 fig 1) disposed along the path of travel for collecting light after it has been irradiated upon the image from the light source (light source 103 of fig 1) at least a portion of the optical

Art Unit: 2626

system (22 of fig 1) being movably mounted for movement back and forth along the path of travel (optical system or image reader 25 of fig 1, moves back and forth as shown in fig 1); and a line sensor system (CCD sensor 25 of fig 1) in optical communication with the optical system, (optical system 2 of fig 1) which receives light collected by the optical system (2 of fig 1) and produces electronic data in accordance with the light received (light receive from 103 of fig 1).

With respect to claim 2, Murakami discloses the apparatus (2 of fig 1), further comprising a drive assembly supporting (carriage or slider 22 of fig 1) said portion of the optical system (optical system 2 of fig 1), and at least a portion of the line sensor system (line sensor 26 of fig 1), the drive assembly being operable for moving said portion of the optical system and said portion of the line sensor system together back and forth along the path of travel.

With respect to claim 3, Murakami discloses the apparatus (shown in fig 1) further comprising a drive assembly (slider 22 of fig 1) supporting said portion of the optical system, (22 of fig 1 supports light source 103 and mirror 23a as shown in fig 1) wherein said portion comprises a mirror (23a of fig 1) oriented for reflecting light after it has been irradiated upon the image from the light source, (103 of fig 1) and the drive assembly (slider 22 of fig 1) is operable for moving the mirror (23a of fig 1) back and forth along the path of travel, see (col.4, lines 25-30).

With respect to claim 4, Murakami discloses the apparatus (shown in fig 1), wherein said optical system (optical system 2 of fig 1) comprises optical elements (103, 23a 24 of fig 1, are optical elements) optically disposed between the mirror (103, 23a and 24 of fig 1 are optical elements disposed between the mirror 23c and sensor 25 of fig 1) and the line sensor system, (24 of fig 1) with the optical elements and at least a portion of the line sensor system being supported by the drive assembly (22 of fig 1) and moving together with the mirror when the drive assembly is operated, see (col.4, lines 25~~2~~-30)

With respect to claim 5, Murakami discloses the apparatus (shown in fig 1), wherein said portion includes an optical assembly (slider 22 of fig 1) optically disposed between the mirror (23b, 23c of fig 1) and the line sensor system, (sensor 24 of fig 1) the optical assembly being synchronized for movement with the mirror and in the same direction when the mirror is moved, see (col.4, lines 25-30) but at a movement rate substantially equal to one-half the movement rate of the mirror for maintaining a substantially constant optical path length between the mirror (23b and 23c of fig 1) and the line sensor system (CCD sensor 24 of fig 1), see (col.4, lines 37-41).

With respect to claim 8, Murakami discloses the apparatus (as shown in fig 2) wherein the light source includes a light emitting diode (light source 103 of fig 1)

With respect to claim 9, Murakami discloses the apparatus wherein the light source (a light source 103 of fig 1) includes a light guide (slider 22 of fig 1, can be used for guiding the light to a platen which is a limited section where document positioned) for directing irradiation to a limited section of the image, the light guide (22 of fig 1) being mounted for movement substantially synchronously with said portion of the optical system (with optical system which includes light source, mirror 23a, 23b and 23c, CCD 25 and lens 24).

With respect to claim 10, Murakami discloses an apparatus (shown in fig 1, image reading device 2) for reading an image and producing electronic data representing the image, see (col.3, lines 20-23) the apparatus (image reading 2 of fig 1) comprising: a carrier (ADF ) for receiving and supporting an image, see (col.4, lines 50-60), and conveying the image along a path of travel see (belt 12 of fig 1, convey the document); a light source (light source 103 of fig 1) disposed along the path of travel and operable for irradiating the image with visible light and non-visible light (light source 103 of fig 1, inherently irradiating visible light and non-visible); an optical system (shown 1 fig 1) disposed along the path of travel for collecting light after it has been irradiated upon the image from the light source (light source 103 of fig 1) at least a portion of the optical system 22 of fig 1) being movably mounted for movement back and forth along the path of travel (optical system or image reader 2 of fig 1, moves back and forth as shown in fig 1); and a line sensor system (CCD sensor 25 of fig 1) in optical communication with the optical system, ( optical system 2 of fig 1) which

Art Unit: 2626

receives light collected by the optical system (2 of fig 1) and produces electronic data in accordance with the light received (light receive from 103 of fig 1); and a control system (control section 28 of fig 3, see (col.5, lines 52-65) electronically connected to, and controlling, the carrier, (22 of fig 1) light source, (103 of fig 1) optical system, and line sensor system, (CCD of fig 1) the control system being operable to control the light source (103 of fig 1) to irradiate the image separately with the first and second types of light, Light source 103 of fig 1) receive electronic data produced by the line sensor (CCD 25 of fig 1) after irradiation by each type of light by moving said portion of the optical system (optical system of fig 1), back and forth along the path of travel, and correct data produced by irradiation with one type of light, based on data produced by irradiation with the other type of light, see (col.5, lines 52-65).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 11-15 and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Utagawa et al (USP 5,650,863).

With respect to claim 11, Utagawa et al. discloses an image reading apparatus (as shown in fig 1-2) which reads, by using visible light for image reading (visible light

illumination 205 of fig 2) and non-visible light (non-visible light illumination 5101 of fig 2) for detecting inappropriate pixels, a frame image recorded on an image frame of an original, (original 204 of fig 2) and, based on a position of an inappropriate pixel which position is obtained by irradiating the non-visible light (non-visible light illumination 5101 of fig 2) for detecting inappropriate pixels, (comparator 4009 of fig 1B) corrects the image data of the inappropriate pixel, see (col.6, Lines 55-60) said image reading apparatus (shown in fig 2) comprising: an irradiation section (light source 205 and 5202 of fig 2) for irradiating onto the original (original 204 of fig 2) the visible light for image reading and the non-visible light for detecting inappropriate pixels, see (col.6, lines 55-60); a line sensor (CCD sensor 210 of fig 2) which reads image information in lines along a main scanning direction, see (col.4, 25-30) by light which is one of transmitted through and reflected by the image frame being made incident on said line sensor (210 of fig 2); and a sub-scanning section for, see (col.4, 25-30) while the original is stationary, moving, in a sub-scanning direction, a reading position of the image frame to be read by said line sensor (210 of fig 2).

With respect to claim 12, Utagawa et al. discloses an image reading apparatus (as shown in fig 2) wherein said sub-scanning section moves at least said line sensor (210 of fig 2) in the sub-scanning direction see (col.4, 25-30).

With respect to claim 13, Utagawa et al. discloses an image reading apparatus (as shown in fig 2), further comprising a mirror (207 of fig 2) which deflects the light which is one of transmitted through and reflected by the image frame so that the light is made incident on said line sensor, (210 of fig 2) wherein said sub-scanning section moves said mirror in the sub-scanning direction, see (col.4, 25-30).

With respect to claim 14, Utagawa et al. discloses an image reading apparatus (as shown in fig 2) wherein said sub-scanning section integrally moves, in the sub-scanning direction, see (col.4, lines 25-30) said mirror, (207 of fig 2) said line sensor, (210 of fig 1) and optical elements (lens 209 of fig 2) disposed between said mirror (207 of fig 2) and said line sensor (210 of fig 2).

With respect to claim 15, Utagawa et al. discloses an image reading apparatus (as shown in fig 2), wherein said sub-scanning section, see col.4, lines 24-26 includes an optical path length adjusting section for maintaining an optical path length constant even when the positional relationship between said mirror and said line sensor is changed due to the movement of said mirror, see (col.4, lines 23-29).

With respect to claim 17, an image reading apparatus (as shown in fig 2), wherein said irradiation section includes a light source (205 and 5101 of fig 2) which separately emits at least visible light for image reading and non-visible light for detecting inappropriate pixels, see col.15, lines 53-55

With respect to claim 18, Utagawa an image reading apparatus (as shown in fig 2), wherein the light source (205 and 5101) is a light emitting diode, (LED 230 of fig 33, col.22, lines 51-53).

With respect to claim 19, Utagawa an image reading apparatus (as shown in fig 2), wherein said irradiation section (205 and 5105 of fig 2) irradiates light only onto the reading position of the image frame and moves an irradiation position in the sub-scanning direction synchronously with movement of the reading position by said sub-scanning section, see (col.4, lines 23-30).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over USP Murakami (USP 5912747) in view of Utagawa et al (USP 5650863).

[ With respect to claim 7, Murakami discloses the apparatus (image reading device as shown in fig 2) wherein the light source (emitting device 205 and 5101 of fig 2). ]

Murakami does not disclose the light source is operable for separately emitting visible light and non-visible light.

However, Utagawa et al. disclose the light source (205 and 5101 of fig 2), as discussed in for separately emitting visible light and non-visible light.  
(col.15, lines 53-56) .

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the image scanning apparatus and electronic capturing system of Murakai to include: a light source for separately emitting visible light and non-visible light.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the image scanning apparatus and electronic capturing system of Murakai by the teaching of Utagawa et al., because of the following reasons: it would have provided users a method that includes a means for adjusting the quantity of light emitted from the first and the second light source.

### ***Allowable Subject Matter***

7. Claims 6 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With respect to claim 6, the prior arts does not disclose the apparatus further comprising first and second filters movably mounted so as to be selectively insert able between the light source and the line sensor system, one of the filters being of the type

Art Unit: 2626


that substantially transmits only visible light there through, and the other filter being of the type that substantially transmits only non-visible light there through.

With respect to claim 16, the prior art does not disclose an image reading apparatus, wherein said irradiation section includes: a light source which simultaneously emits visible light for image reading and non-visible light for detecting inappropriate pixels; and a filter switching section for selectively inserting one of at least two types of filters between the light source and the line sensor, said at least two types of filters being at least one filter which transmits only visible light and at least one filter which transmits only non-visible light.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Negussie Worku whose telephone number is 305-5441. The examiner can normally be reached on 7am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on 703-305-4863. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Negussie worku  
04/30/04

  
MARK WALLERSON  
PRIMARY EXAMINER